

a motor rotor including a rotor magnetic pole disposed opposite to a surface of said stator magnetic pole through a gap;

bearings for rotatably supporting a rotation shaft of said motor rotor to said housing;

an encoder for measuring displacement of said motor rotor; and

a hermetically sealing partition wall made of a nonmagnetic metal material and disposed at the gap between said stator magnetic pole and said rotor magnetic pole, a space where said motor rotor is disposed being hermetically isolated from a space wherein said motor stator is disposed;

wherein said bearings are a plurality of rolling bearings, said rolling bearings supporting said motor rotor at positions on said housing at both sides of a member constituting said sealing partition wall in a longitudinal direction of said motor rotor so that said housing directly receives a load applied to said bearings.

26. A sealed actuator a claimed in claim 25, wherein said encoder is an optical encoder.

27. A sealed actuator as claimed in claim 25, wherein said encoder is a magnetic encoder.

28. A sealed actuator comprising:

a motor stator including a stator magnetic pole excited by a rotation-drive coil;

a housing to which said motor stator is attached;

a motor rotor including a rotor magnetic pole disposed opposite to a surface of said stator magnetic pole through a gap;

bearings for rotatably supporting a rotation shaft of said motor rotor to said housing;

an encoder for measuring displacement of said motor rotor; and

a hermetically sealing partition wall made of a nonmagnetic metal material and disposed at the gap between said stator magnetic pole and said rotor magnetic pole, a space where said motor rotor is disposed being hermetically isolated from a space wherein said motor stator is disposed.

29. A sealed actuator as claimed in claim 28, wherein said encoder is an optical encoder.

30. A sealed actuator as claimed in claim 28, wherein said encoder is a magnetic encoder.

31. A sealed actuator comprising:

a motor stator including a stator magnetic pole excited by a rotation-drive coil;

a housing to which said motor stator is attached;

a motor rotor including a rotor magnetic pole disposed opposite to a surface of said stator magnetic pole through a gap;

bearings for rotatably supporting a rotation shaft of said motor rotor to said housing;

an encoder for measuring displacement of said motor rotor; and

a hermetically sealing partition wall made of a nonmagnetic metal material and disposed at the gap between said stator magnetic pole and said rotor magnetic pole, a space where said motor rotor is disposed being hermetically isolated from a space where said motor stator is disposed;

wherein said sealed actuator further comprises reinforcing means for reinforcing at least a part of said hermetically sealing partition wall, said reinforcing means being made of substantially the same nonmagnetic metal material as said partition wall.

32. A sealed actuator as claimed in claim 31, wherein said encoder is an optical encoder.

33. A sealed actuator as claimed in claim 31, wherein said encoder is a magnetic encoder.

34. A sealed actuator comprising a plurality of unit sealed actuators connected in series to each other, each of said unit sealed actuators comprising:

a motor stator including a stator magnetic pole excited by a rotation-drive coil;

a housing to which said motor stator is attached;

a motor rotor including a rotor magnetic pole disposed opposite to a surface of said stator magnetic pole through a gap;

bearings for rotatably supporting a rotation shaft of said motor rotor to said housing;

an encoder for measuring displacement of said motor rotor; and

a hermetically sealing partition wall made of a nonmagnetic metal material and disposed at the gap between said stator magnetic pole and said rotor magnetic pole, a space where said motor rotor is disposed being hermetically isolated from a space where said motor stator is disposed;

wherein said bearings are a plurality of rolling bearings, said rolling bearings supporting said motor rotor at positions on said housing at both sides of a member constituting said sealing partition wall in a longitudinal direction of said motor rotor so that said housing directly receives a load applied to said bearings; and

wherein said rotor magnetic pole includes a salient pole tooth of a steel material of a magnetic substance subjected to salient pole working.

35. A sealed actuator as claimed in claim 34, wherein said encoder is an optical encoder.

36. A sealed actuator as claimed in claim 34, wherein said encoder is a magnetic encoder.

37. A sealed actuator comprising a plurality of unit sealed actuators connected in series to each other, each of said unit sealed actuators comprising:

a motor stator including a stator magnetic pole excited by a rotation-drive coil;

a housing to which said motor stator is attached;

a motor rotor including a rotor magnetic pole disposed opposite to a surface of said stator magnetic pole through a gap;

bearings for rotatably supporting a rotation shaft of said motor rotor to said housing;

an encoder for measuring displacement of said motor rotor; and

a hermetically sealing partition wall made of a nonmagnetic metal material and disposed at the gap between said stator magnetic pole and said rotor magnetic pole, a space where said motor rotor is disposed being hermetically isolated from a space where said motor stator is disposed;

wherein said bearings are a plurality of rolling bearings, said rolling bearings supporting said motor rotor at positions on said housing at both sides of a member constituting said sealing partition wall in a longitudinal direction of said motor rotor so that said housing directly receives a load applied to said bearings.

38. A sealed actuator as claimed in claim 37, wherein said encoder is an optical encoder.

39. A sealed actuator as claimed in claim 37, wherein said encoder is a magnetic encoder.

40. A sealed actuator comprising a plurality of unit sealed actuators connected in series to each other, each of said unit sealed actuators comprising:

a motor stator including a stator magnetic pole excited by a rotation-drive coil;

a housing to which said motor stator is attached;

a motor rotor including a rotor magnetic pole disposed opposite to a surface of said stator magnetic pole through a gap;

bearings for rotatably supporting a rotation shaft of said motor rotor to said housing;

an encoder for measuring displacement of said motor rotor; and

a hermetically sealing partition wall made of a nonmagnetic metal material and disposed at the gap between said stator magnetic pole and said rotor magnetic pole, a space where said motor rotor is disposed being hermetically isolated from a space where said motor stator is disposed.

41. A sealed actuator as claimed in claim 40, wherein said encoder is an optical encoder.

42. A sealed actuator as claimed in claim 40, wherein said encoder is a magnetic encoder.--